

TOP SECRET

65870  
65870

TOP SECRET 0420367 SEP 68 CITE 4518

25X1  
25A1

1. THE SHIPMENT OF 1104-2 WILL INCLUDE 781 EXPERIMENTAL OF CAMOUFLAGE DETECTION COLOR FILM TAKEN BY THE FWD CAMERA AT THE END OF MISSION, AS FOLLOWS:

REV NO.	FRAMES	ON	OFF
199	9	4317N 12301E	3927N 12344E
200	41	3109N 10239E	2809N 10301E
		2351N 10330E	2057N 10347E
201	73	6722N 6807E	6157N 7206E
		4603N 7551E	4135N 7846E
203	70	4758N 3250E	4315N 3353E
		3259N 3534E	2818N 3609E
211	20	2616S 13751W	2342S 13741W
230	40	5326N 1221E	4804N 1354E
236	31	5112N 1632E	4331N 1824E

2. HEAVY CORONA-INDUCED FOG IS PRESENT THROUGHOUT MUCH OF THIS MATERIAL, AFFECTING INTERPRETATION. THE FOLLOWING REGARDING THE SIGNIFICANCE OF THE COLOR RENDITION BY THIS MISSION IS BEING

DISTRIBUTION	
OFFICE	
FILE	
CABLE SEC.	
PP&B/RD	
SECUR.	
TSSG	
PSG/DC	
RRD	
REPRO	
AID	
IEG	
PROD	
SCIEN	
WEST	
EAST	
M&S	
PGM	
IAS	
DIA-XX4	25X1
SPAD	
DIA-AP	25X1
CMX	

PAGE 2 4518 TOP SECRET  
ISSUED TO RECIPIENTS OF THE FILM.

A. THE CORONA STATIC-INDUCED FOG CAUSES A GENERAL RED CAST OF VARYING SATURATION IN THE AFFECTED AREAS. THE CORONA DISCHARGE IS EITHER LOW INTENSITY BLUE LIGHT OR AN ENERGY ONLY AFFECTING THE CYAN LAYER OF THE EMULSION, AND THEREFORE IS IMAGED AS RED. THE RED IS NOT ASSOCIATED WITH INFRARED ENERGY.

B. THE CORONA-INDUCED FOG IS ADDITIVE TO THE IMAGE. THEREFORE RED IMAGE SATURATION MAY BE EXAGGERATED AND OTHER COLORS CONTAMINATED.

C. IN ADDITION TO THE CORONA FOG ASSOCIATED PROBLEMS, THERE ARE COLOR RENDITION ANOMALIES CHARACTERISTIC OF THE CAMERA SYSTEM. BECAUSE THIS IS A PANORAMIC SYSTEM, THE RELATIONSHIP OF THE PRINCIPAL RAY (LOOK ANGLE) THE SOLAR POSITION VARIES ACROSS THE FORMAT. EXPOSURE AND COLOR BALANCE THEREFORE, ALSO VARY IN ASSOCIATION WITH SCAN ANGLE. AN ADDITIONAL EXPOSURE/COLOR BALANCE VARIATION CAN BE EXPECTED FROM FRAME TO FRAME AS THE SOLAR ELEVATION CHANGES WITH RESPECT TO VEHICLE POSITION.

D. FINALLY, THERE ARE CERTAIN INHERENT CHARACTERISTICS OF THE FILM THAT NEED TO BE CONSIDERED. FOR INSTANCE, HEALTHY VIGOROUS VEGETATION WILL BE IMAGED DIFFERENTLY DEPENDING ON ITS COLOR AND ITS INFRARED REFLECTING CHARACTERISTICS. A BALSAM

PAGE 3 4518 TOP SECRET

POPLAR, FOR INSTANCE, REFLECTS APPROXIMATELY 72 PERCENT OF THE 900 MILLIMICRON WAVE LENGTH ENERGY INCIDENT UPON IT, WHILE A YELLOW BIRCH REFLECTS ONLY ABOUT 45 PERCENT OF THE SAME WAVE LENGTH ENERGY. INFRARED ENERGY REFLECTION DIFFERS DISTINCTLY BETWEEN CONIFERS AND HARDWOOD TYPE TIMBER. THE INTERPRETER SHOULD THERE EXPECT TO SEE STANDS OF TIMBER IMAGED AS PREDOMINANTLY BLUE (ALTHOUGH HEALTHY) AND OTHER STANDS OF TIMBER, HAVING A DISTINCT RED SIGNATURE.

3. THE FOREGOING NOTES SHOULD NOT BE CONSTRUED AS A CONDEMNATION OF THE PRODUCT. THE POINTS ARE MADE ONLY TO INDICATE THE CARE WITH WHICH THIS PRODUCT SHOULD BE EXPLOITED.

TOP SECRET

(END OF MSG)

TOP SECRET